



PATENT  
Customer No. 22,852  
Attorney Docket No. 7738.147

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	
	)	
Grant E. DUBOIS et al.	)	Group Art Unit: 1761
	)	
Application No.: 09/838,809	)	Examiner: C. Paden
	)	
Filed: April 20, 2001	)	Confirmation No.: 3526
	)	
For: NON CALORIC FROZEN	)	
CARBONATED BEVERAGE	)	

Commissioner for Patents  
P.O. Box 1450  
Washington, DC 20231

Sir:

**AMENDMENT**

In response to the non-final Office Action dated March 5, 2004, the period for response having been extended by the petition and fee filed herewith, please amend the above-identified application, without prejudice, as follows:

**Amendments to the Claims** are reflected in the listing of claims in this paper.

**Remarks** follow the amendment section of this paper.

AMENDMENTS TO THE CLAIMS

1 -12. (Canceled)

13. (Currently Amended) A reduced calorie frozen carbonated dispenser beverage having a given freezing point comprising:

(a) a reduced calorie beverage syrup containing a mixture of a high-potency non-caloric sweetener and a low caloric sugar, the low caloric sugar acting as a freezing point depressant, ~~as compared to freezing point depressant characteristics of the non-caloric sweetener;~~

(b) water; and

(c) carbon dioxide

wherein the given freezing point is determined from a reference molal concentration of ~~high-calorie~~ full-caloric sugar in a standard frozen carbonated beverage for achieving said given freezing point, and the amount of low-caloric sugar in the mixture is selected to achieve substantially the same molal concentration thereof as the reference molal concentration.

14. (Currently Amended) The beverage of claim 13, wherein the amount ratio of low caloric sugar ~~to non-caloric sweetener in the mixture~~ is selected to achieve said given freezing point.

15. (Canceled)

16. (Previously Presented) The beverage according to claim 13, wherein the the low caloric sugar comprises a Sugar MNS chosen from at least one of erythritol, isomalt, maltitol, lactitol, and fructo-oligosaccharide sweetener.

17. (Previously Presented) The beverage according to claim 14, wherein the low caloric sugar comprises a Sugar MNS chosen from at least one of erythritol, isomalt, maltitol, lactitol, and fructo-oligosaccharide sweetener.

18. (Canceled)

19. (Previously Presented) The beverage according to claim 16, wherein the Sugar MNS is erythritol.

20. (Previously Presented) The beverage according to claim 16, wherein the beverage syrup contains a high-potency non-caloric sweetener selected from at least one of aspartame, saccharin, acesulfame-K, cyclamate, and sucralose.

21 - 22. (Canceled)

23. (Currently Amended) A reduced calorie frozen non-carbonated dispenser beverage having a given freezing point comprising:

(a) a beverage syrup containing a mixture of high-potency non-caloric sweetener and a low caloric sugar, said low-caloric sugar acting as a freezing point depressant; and

(b) water;

wherein the amount of low-caloric sugar is selected to achieve said given freezing point, [The beverage of claim 21,]

wherein the given freezing point is determined from a reference molal concentration of ~~high-calorie~~ full-caloric sugar in a standard frozen carbonated beverage for achieving said given freezing point, and the amount of low-caloric sugar in the mixture is selected to achieve substantially the same molal concentration thereof as the reference molal concentration.

24-25. (Canceled)

26. (Previously Presented) The beverage according to claim 23, wherein the low caloric sugar comprises a Sugar MNS chosen from at least one of erythritol, isomalt, maltitol, lactitol, and fructo-oligosaccharide sweetener.

27. (Currently Amended) The beverage according to claim [[24]] 26, wherein the Sugar MNS is erythritol.

28. (Currently Amended) The beverage according to claim [[24]] 26, further comprising a high-potency non-caloric sweetener chosen from at least one of aspartame, saccharin, acesulfame-K, cyclamate, or sucralose.

29-30. (Canceled)

31. (Currently Amended) A method of making a reduced calorie frozen carbonated dispenser beverage having a given freezing point comprising combining:  
a reduced calorie beverage syrup containing a mixture of a high-potency non-caloric sweetener and a low caloric sugar, said low caloric sugar acting as a freezing point depressant;

water; and

carbon dioxide.

wherein the amount of low caloric sugar is selected to achieve said given freezing point, [The method of claim 29,]

wherein the given freezing point is determined from a reference molal concentration of ~~high-calorie~~ full-caloric sugar in a standard frozen carbonated beverage for achieving said freezing point, and the amount of low caloric sugar in the mixture is selected to achieve substantially the same molal concentration thereof as the reference molal concentration.

32-33. (Canceled)

34. (Previously Presented) The method according to claim 31, wherein the low caloric sugar comprises a Sugar MNS chosen from at least one of erythritol, isomalt, maltitol, lactitol, and fructo-oligosaccharide sweetener.

35. (Currently Amended) The method according to claim [[32]] 34, wherein the Sugar MNS is erythritol.

36. (Currently Amended) The method according to claim [[32]] 34, wherein the beverage syrup contains a high-potency non-caloric sweetener chosen from at least one of aspartame, saccharin, acesulfame-K, cyclamate, and sucralose.

37. (Currently Amended) A method of controlling the freezing point depressant characteristics of a beverage syrup for a frozen dispenser beverage to be mixed with a diluent comprising the steps of:

(a) blending a high-potency non-caloric sweetener and a low-caloric sugar, said low-caloric sugar acting as a freezing point depressant for the finished beverage formulation ~~the diluent compared to freezing point depressant characteristics of the non-caloric sweetener,~~

(b) controlling the amount ratio of low-caloric sugar ~~to non-caloric sweetener~~ to achieve a given freezing point of the finished beverage formulation ~~diluent and syrup mixture; and~~

wherein the given freezing point is determined from a reference molal concentration of ~~high-calorie~~ full-caloric sugar in a standard frozen carbonated beverage for achieving said given freezing point, and the amount of low caloric sugar in the mixture is selected to achieve substantially the same molal concentration thereof as the reference molal concentration.

38-39. (Canceled)

40. (Previously Presented) The method of claim 37, wherein the low caloric sugar comprises a Sugar MNS chosen from at least one of erythritol, isomalt, maltitol, lactitol, and fructo-oligosaccharide sweetener.

41. (Canceled)

42. (Previously Presented) The method of claim 39, wherein the low caloric sugar comprises a Sugar MNS chosen from at least one of erythritol, isomalt, maltitol, lactitol, and fructo-oligosaccharide sweetener.

43. (Previously Presented) The method of claim 40, wherein the beverage syrup contains a high-potency non-caloric sweetener chosen from at least one of aspartame, saccharin, acesulfame-K, cyclamate, and sucralose.

44-53. (Canceled)

54. (Currently Amended) A method of depressing the freezing point of a reduced calorie beverage syrup comprising:

preparing a reduced caloric beverage syrup by replacing up to one third of a high-potency non-caloric sweetener with a freezing point depressant chosen from at least one of propylene glycol, glycerol and sorbitol, [The method according to claim 53,] wherein the high-potency non-caloric sweetener includes sucralose.

55. (Previously Presented) The beverage according to claim 13, wherein the low caloric sugar is chosen from at least one of propylene glycol, glycerol, and sorbitol.

56. (Previously Presented) The beverage according to claim 55, wherein the low caloric sugar is chosen from at least two of propylene glycol, glycerol, and sorbitol.

57. (Previously Presented) The beverage according to claim 55, wherein the low caloric sugar includes propylene glycol, glycerol, and sorbitol.

58. (Previously Presented) The beverage according to claim 55, wherein the beverage contains a high-potency non-caloric sweetener chosen from at least one of aspartame, saccharin, acesulfame-K, cyclamate, and sucralose.

59. (Currently Amended) The beverage according to claim 58, wherein the high-potency non-caloric sweetener ~~includes~~ comprises sucralose.

60. (Previously Presented) The beverage according to claim 56, wherein the beverage contains a high-potency non-caloric sweetener chosen from at least one of aspartame, saccharin, acesulfame-K, cyclamate, and sucralose.

61. (Currently Amended) The beverage according to claim 60, wherein the high-potency non-caloric sweetener ~~includes~~ comprises sucralose.

62. (Previously Presented) The beverage according to claim 57, wherein the beverage contains a high-potency non-caloric sweetener chosen from at least one of aspartame, saccharin, acesulfame-K, cyclamate, and sucralose.

63. (Currently Amended) The beverage according to claim 62, wherein the high-potency non-caloric sweetener ~~includes~~ comprises sucralose.

64. (Currently Amended) The beverage according to claim [[21]] 23, wherein the low caloric sugar is chosen from at least one of propylene glycol, glycerol, and sorbitol.

65. (Previously Presented) The beverage according to claim 64, wherein the low caloric sugar is chosen from at least two of propylene glycol, glycerol, and sorbitol.

66. (Previously Presented) The beverage according to claim 64, wherein the low caloric sugar includes propylene glycol, glycerol, and sorbitol.

67. (Previously Presented) The beverage according to claim 64, wherein the beverage contains a high-potency non-caloric sweetener chosen from at least one of aspartame, saccharin, acesulfame-K, cyclamate, and sucralose.

68. (Currently Amended) The beverage according to claim 67, wherein the high-potency non-caloric sweetener ~~includes~~ comprises sucralose.

69. (Previously Presented) The beverage according to claim 65, wherein the beverage contains a high-potency non-caloric sweetener chosen from at least one of aspartame, saccharin, acesulfame-K, cyclamate, and sucralose.

70. (Currently Amended) The beverage according to claim 69, wherein the high-potency non-caloric sweetener ~~includes~~ comprises sucralose.

71. (Previously Presented) The beverage according to claim 66, wherein the beverage contains a high-potency non-caloric sweetener chosen from at least one of aspartame, saccharin, acesulfame-K, cyclamate, and sucralose.

72. (Currently Amended) The beverage according to claim 71, wherein the high-potency non-caloric sweetener ~~includes~~ comprises sucralose.

73. (Currently Amended) The beverage according to claim [[29]] 31, wherein the low caloric sugar is chosen from at least one of propylene glycol, glycerol, and sorbitol.

74. (Previously Presented) The beverage according to claim 73, wherein the low caloric sugar is chosen from at least two of propylene glycol, glycerol, and sorbitol.

75. (Previously Presented) The beverage according to claim 73, wherein the low caloric sugar includes propylene glycol, glycerol, and sorbitol.

76. (Previously Presented) The beverage according to claim 73, wherein the beverage contains a high-potency non-caloric sweetener chosen from at least one of aspartame, saccharin, acesulfame-K, cyclamate, and sucralose.

77. (Currently Amended) The beverage according to claim 76, wherein the high-potency non-caloric sweetener ~~includes~~ comprises sucralose.



78. (Previously Presented) The beverage according to claim 74, wherein the beverage contains a high-potency non-caloric sweetener chosen from at least one of aspartame, saccharin, acesulfame-K, cyclamate, and sucralose.

79. (Currently Amended) The beverage according to claim 78, wherein the high-potency non-caloric sweetener ~~includes~~ comprises sucralose.

80. (Previously Presented) The beverage according to claim 75, wherein the beverage contains a high-potency non-caloric sweetener chosen from at least one of aspartame, saccharin, acesulfame-K, cyclamate, and sucralose.

81. (Currently Amended) The beverage according to claim 80, wherein the high-potency non-caloric sweetener ~~includes~~ comprises sucralose.

82. (Previously Presented) The beverage according to claim 37, wherein the low caloric sugar is chosen from at least one of propylene glycol, glycerol, and sorbitol.

83. (Previously Presented) The beverage according to claim 82, wherein the low caloric sugar is chosen from at least two of propylene glycol, glycerol, and sorbitol.

84. (Previously Presented) The beverage according to claim 82, wherein the low caloric sugar includes propylene glycol, glycerol, and sorbitol.

85. (Previously Presented) The beverage according to claim 82, wherein the beverage contains a high-potency non-caloric sweetener chosen from at least one of aspartame, saccharin, acesulfame-K, cyclamate, and sucralose.

86. (Currently Amended) The beverage according to claim 85, wherein the high-potency non-caloric sweetener ~~includes~~ comprises sucralose.

87. (Previously Presented) The beverage according to claim 83, wherein the beverage contains a high-potency non-caloric sweetener chosen from at least one of aspartame, saccharin, acesulfame-K, cyclamate, and sucralose.

88. (Currently Amended) The beverage according to claim 87, wherein the high-potency non-caloric sweetener ~~includes~~ comprises sucralose.

89. (Previously Presented) The beverage according to claim 84, wherein the beverage contains a high-potency non-caloric sweetener chosen from at least one of aspartame, saccharin, acesulfame-K, cyclamate, and sucralose.

90. (Currently Amended) The beverage according to claim 89, wherein the high-potency non-caloric sweetener ~~includes~~ comprises sucralose.

91-96. (Canceled)

97. (Previously Presented) The beverage according to claim 13, wherein said beverage syrup further comprises tagatose.

98. (Previously Presented) The beverage according to claim 19, wherein said beverage syrup further comprises tagatose.

99. (Currently Amended) The beverage according to claim ~~[[21]]~~ 23, wherein said beverage syrup further comprises tagatose.

100. (Previously Presented) The beverage according to claim 27, wherein said beverage syrup further comprises tagatose.

101. (Previously Presented) The beverage according to claim 35, wherein said beverage syrup further comprises tagatose.

102. (Previously Presented) The beverage according to claim 37, wherein said beverage syrup further comprises tagatose.

103-105. (Canceled)

106. (New) The beverage according to claim 13, wherein said beverage syrup further comprises at least one mineral salt.

107. (New) The beverage according to claim 23, wherein said beverage syrup further comprises at least one mineral salt.

108. (New) The method according to claim 31, wherein said beverage syrup further comprises at least one mineral salt

109. (New) The method according to claim 37, wherein said beverage syrup further comprises at least one mineral salt.

110. (New) The method according to claim 54, wherein said beverage syrup further comprises at least one mineral salt.